Implementation of schemes for development of non-conventional energy

477. SHRI N.R. GOVINDARAJAR: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the details of schemes implemented for the development of non-conventional energy in the country during the last three years, State-wise;

(b) the incentives given/proposed to be given by Government to each State to encourage investment in non-conventional energy sources, particularly to Tamil Nadu;

(c) whether Government have made any study to identify Grid Interactive Renewable Power State; and

(d) if so, the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI VILAS MUTTEMWAR): (a) State-wise details of deployment of various renewable energy systems/devices under major renewable energy schemes/programmes of this Ministry during the last three years, i.e. 2003-04 to 2005-06 are given in the enclosed Statement-I (*See* below).

(b) To encourage investment in renewable energy in the country, including Tamil Nadu, fiscal and financial incentives are being provided that include capital/interest subsidy, accelerated depreciation, concessional duties and relief from taxes to attract private investment. These apart, preferential tariff for grid interactive power is being given in most potential States. District-level Advisory Committees have been also constituted in States to facilitate effective coordination of renewable energy schemes/programmes in the country.

(c) and (d) State-wise details of estimated potential for grid-interactive renewable power generation are given in the enclosed Statement-II.

Statement-I

State-wise details of deployment of various renewable energy systems/devices under major schemes/ programmes during the last 3 years, i.e., 2003-04 to 2005-06

Sl. No.	State/UT	Biogas Plants	SPV Pumps	Aero-generators	Wind Pumps	RVE	Grid-interactive Power				Solar Photovoltaic Systems/Devices*			
							Small Hydro Power	Wind Power	Biomass Power/ Cogener-ation	Waste to Energy	SLS	HLS	SL	PP
		Nos.	Nos.	kW	Nos.	Nos.	MW	MW	MW	MW	Nos.	Nos.	Nos.	kWp
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Andhra Pradesh	44523	16		1		23.20	28.50	119.20	19.75	85	85	6000	3000
2.	Arunachal Pradesh	457				73	11.93				133	520		
3.	Assam	3298				3	0.11							
4.	Bihar	396	11		4		5.50				200	990	5490	
5.	Chhattisgarh	9312	9			205	10.00		16.50		172	3222		
6.	Goa	254		25							105	116		
7.	Gujarat	19289	42		209	2		165.06			240	2400		5
8.	Haryana	3461	201				14.40		2.00		240	3600		
9.	Himachal Pradesh	647					38.84				300	1000		
10.	Jammu & Kashmir	33	21				7.50							
11.	Jharkhand	558				53					248			
12.	Karnataka	30577	117	2	5		140.75	460.18	115.10		210	2786		
13.	Kerala	14120	73				12.60						3000	
14.	Madhya Pradesh	23568	9				2.20	17.65	1.00		132	765		
15.	Maharashtra	26177	39	217				588.50	11.50		103	104		
16.	Manipur	102				106						1000		
17.	Meghalaya	755	14			25						1000		
18.	Mizoram	455				7						600		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
21.	Punjab	6384	392				15.15		6.00	1.00	371	310		25
22.	Rajasthan	195	20				0.00	278.84	15.30		100	10466		
23.	Sikkim	1024					3.00				20	9750		15
24.	Tamil Nadu	5232	69				1.30	1904.28	67.00	1.75			8000	
25.	Tripura	325	15			16								
26.	Uttar Pradesh	21195	308				3.60		75.00	5.00	400			
27.	Uttaranchal	2279	16			216	10.85					4776		
28.	West Bengal	40218		18		451	6.02				150			
29.	Andaman and Nicobar												11000	
30.	Chandigarh													
31.	Dadra and Nagar Haveli													
32.	Daman and Diu													
33.	Delhi		3											10
34.	Lakshadweep													
35.	Pondicherry												2000	
36.	Others	27851										2374		25
	TOTAL:	308891	1376	262	221	1157	307.15	3443.00	428.60	27.50	3313	46714	36577	3080

SPV=Solar Photo-Voltaic; SLS=Street Lighting Systems; HLS=Home Lighting Systems; SL=Solar Lanterns; PP=Power Plants
RVE=Remote Village Electrification; kW=kilo-Watt; kWp=kilo Watt peak; MW=Mega Watt.

Statement-II

State-wise details of estimated potential for renewable energy, including grid-interactive renewable power generation

Sl. No.	States/UTs	Wind Power 1 (MWe)	Small Hydro Power 2 (MWe)	Bagasse Cogeneration 3 (MWe)	Waste to Energy (MSW) 4 (MWe)	Cumulative Estimated Potential 5 (MWe)
1	2	3	4	5	6	7
1.	Andhra Pradesh	8275	255	200	123	8853
2.	Arunachal Pradesh	0	1059	0	0	1059
3.	Assam	0	148	5	8	131
4.	Bihar	0	194	200	62	456
5.	Chhattisgarh	0	180	0	20	78
6.	Goa	0	3	5	0	8
7.	Gujarat	9675	157	200	112	10144
8.	Haryana	0	30	0	23	53
9.	Himachal Pradesh	0	1625	0	1	1626
10.	Jammu & Kashmir	0	1207	0	10	180
11.	Jharkhand	0	170	0	0	1207
12.	Karnataka	6620	653	300	151	7724
13.	Kerala	875	467	10	37	1389
14.	Madhya Pradesh	5500	336	25	92	5953
15.	Maharashtra	3650	599	1000	287	5536
16.	Manipur	0	106	0	2	108
17.	Meghalaya	0	182	0	2	184
18.	Mizoram	0	190	0	2	192

1	2	3	4	5	6	7
21.	Punjab	0	65	150	45	260
22.	Rajasthan	5400	27	10	62	5499
23.	Sikkim	0	203	0	0	203
24.	Tamil Nadu	3050	339	350	151	3890
25.	Tripura	0	10	0	2	11
26.	Uttar Pradesh	0	267	1000	176	1443
27.	Uttaranchal	0	1478	0	5	1483
28.	West Bengal	450	183	10	147	790
29.	Andaman & Nicobar	0	6	0	0	6
30.	Chandigarh	0	0	0	6	6
31.	Dadra & Nagar Haveli	0	0	0	0	0
32.	Daman & Diu	0	0	0	0	0
33.	Delhi	0	0	0	131	131
34.	Lakshadweep	0	0	0	0	0
35.	Pondicherry	0	0	10	3	13
				0	1020	
	Biomass Potential 6					16000
	Industrial Waste Potential					1020
	TOTAL:	45195	10476	3500	2700	77720

*Technical potential less than 15,000 MW

Note:

1. Potential based on areas having wind power density (wpd) greater than 200 Watts/m^2 land availability @ 1 per cent in potential areas, and wind farm area requirement @ 12 ha/MW. In line with international practice to take sites having wpd greater than 300 W/m^2 for grid-interactive power, this potential would drop. However, off-grid applications are possible even in areas having lower wpds.
2. Identified sites having technical feasibility, not all of which may be commercially exploitable. Technical hydro potential of sites upto 25 MW station capacity has, however, been placed at 15,000 MWe.
3. With new sugar mills and modernization of existing ones, technical potential is assessed at 5000 MWe, not all of which may be commercially exploitable. Furthermore, several sugar companies/cooperatives are unable to develop bankable projects on account of their financial and liquidity positions.
4. With expansion of urban population post census 2001, current technical potential assessed at 3000 MWe. However, subsidy disbursement under the programme has been kept in abeyance on the orders of the Supreme Court until final disposal of a PIL seeking composting as the preferred route for MSW disposal.
5. Accordingly, renewable energy technical potential has been placed at 84,000 MWe, not all of which may be suitable for grid-interactive power.
6. Biomass atlas under preparation which will more accurately assess State-wise renewable energy potential from agro-residues.

Proposal for installation of solar heaters

478. SHRI S.M. LALJAN BASHA:
SHRI C. PERUMAL:

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether Government have a proposal to install solar heater in 3.5 million homes;